Of dogs and man

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This volume comprises papers presented to Wietske Prummel on the occasion of her retirement from the Groningen Institute of Archaeology (University of Groningen) in 2012 and celebrates her scientific career. The contriutions cover the field of archaeozoology with studies on the history of the discipline, methodlogical issues and papers on prehistory, the Roman period, the Middle Ages and beyond. The contributions cover the entire European continent.

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EDITORS: D.C.M. RAEMAEKERS, K.E. ESSER, R.C.G.M. LAUWERIER AND J.T. ZEILER

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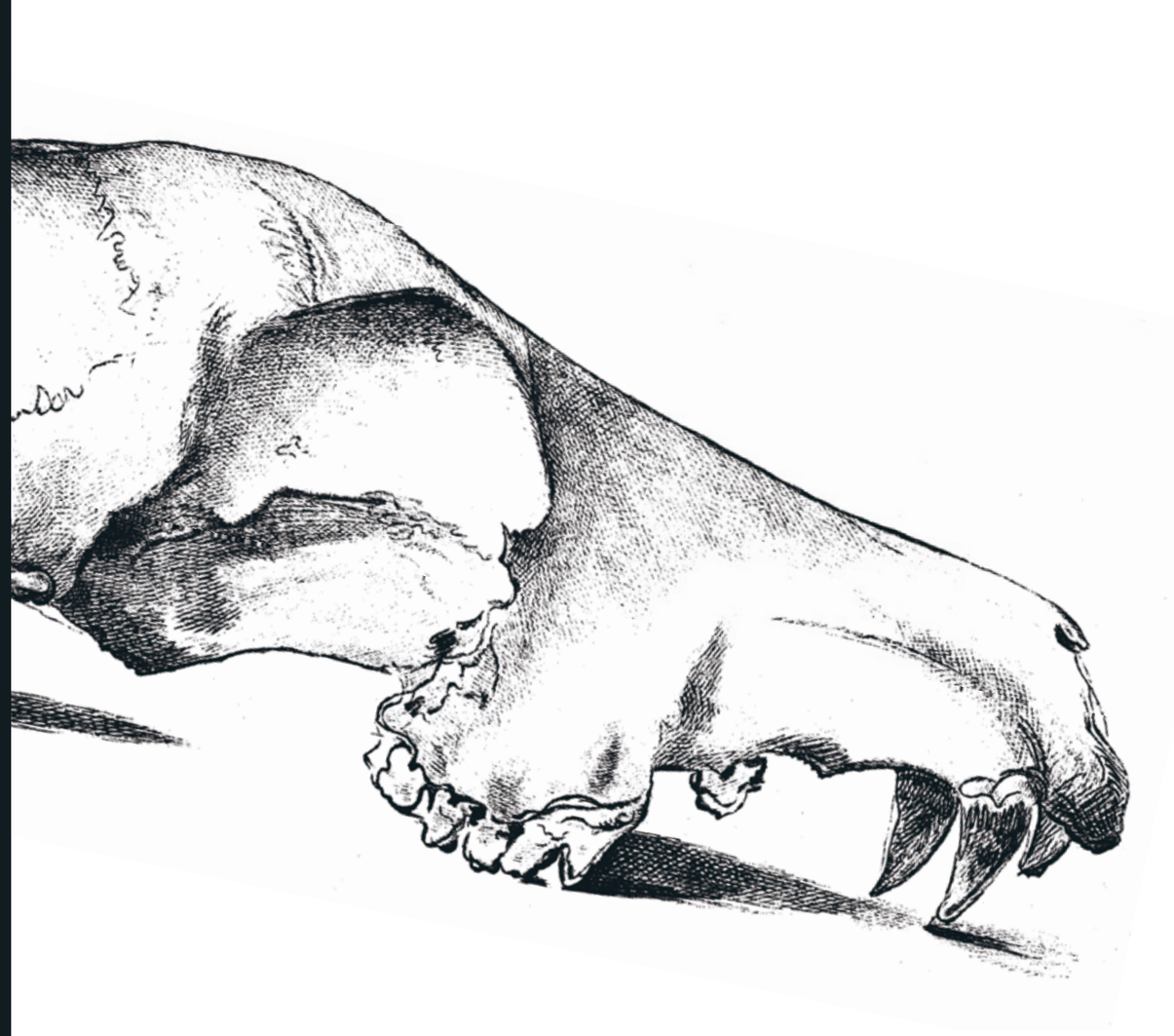

A bouquet of archaeozoological studies

ESSAYS IN HONOUR OF WIETSKE PRUMMEL

Editors: D.C.M. Raemaekers, K.E. Esser, R.C.G.M. Lauwerier and J.T. Zeiler

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Essays in honour of Wietske Prummel

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Image Front cover: “Canis familiaris intermedius” from the terp-mound of Aalsum designed by Schoor 1887 (after Knol, this volume).

Image Back cover: Wietske teaching students at the bonelab of the Groningen Institute of Archaeology (photo J. van Gent MA).

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Foreword

On November 6th 2012 dr. Wietske Prummel officially said farewell as employee of the Groningen Institute of Archaeology. On this occasion a seminar entitled *Dier en mens in het Noordnederlandse kustlandschap in de late prehistorie en vroeg-historische tijden* (Man and animal during late prehistoric and early historic times in the Dutch northern coastal landscape) was held to honour her contribution to the important research field of terp-mound archaeology in northwest Europe.

Notwithstanding these contributions, it is clear that Wietske accomplished significant contributions in other fields as well. Let us first focus on research. This volume of dedicated essays offers a glimpse of the long-term international involvement of Wietske. All authors responded with enthusiasm when asked for a contribution while, thanks to their efforts, the realisation of the volume was a relatively smooth operation. We think this is a reflection of Wietske's position in the international field of archaeozoology. Her major role can also be judged from the fact that the contributions relate to all archaeological periods and to the history and methodology of the research field. Her list of publications (listed as final contribution in this volume) reflects her wide interests in terms of space and time.

Less visible to most of her colleagues, but probably not surprising to anyone who knows her, is her continuous and intensive involvement with our educational programme. While Wietske's list of publications is impressive, it must be reminded that Wietske always gave priority to her students, be it undergraduate, graduate or PhD. For many years she worked as our student counsellor. In later years she became chair of the educational advisory board (*opleidingscommissie*), which allowed her to be involved not only with her own courses but with all courses taught. Her involvement with our university is also expressed in the fact that she was member of the counsel of the Faculty of Arts.

For us - and we are sure that we can speak for all who worked with her - Wietske is a cheerful and cordial colleague. By way of thanks for all those years of enjoyable cooperation we like to offer her this bouquet of archaeozoological studies.

We would also like to thank our publisher Roelf Barkhuis (Barkhuis publishers) and Nynke Tiekstra (Coltsfootmedia) for the pleasant cooperation.

The editors,

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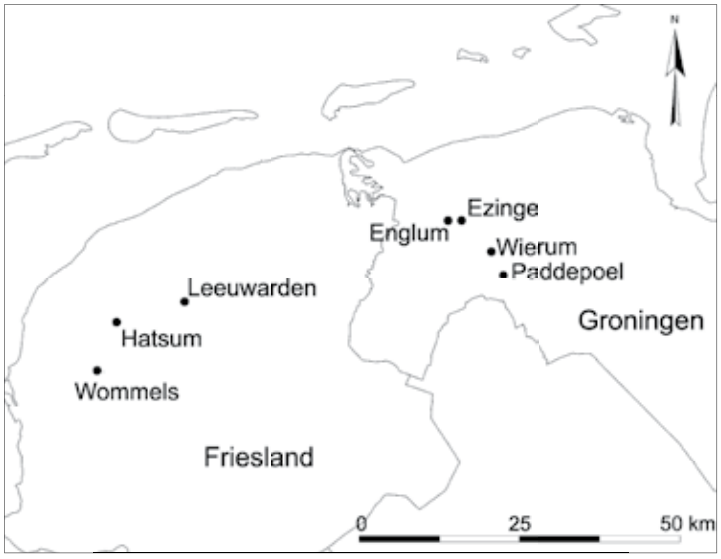
Figure 1 Location of sites mentioned in the text in the northern Netherlands.



10 Of dogs and man. Finds from the terp region of the Northern Netherlands in the pre-Roman and Roman Iron Age

Annet Nieuwhof[1]

Introduction

Preservation of bones in the artificial dwelling mounds of the Northern Netherlands, the so-called *terps*, is usually excellent. The area can be considered an archaeozoological paradise; digging and excavating in the terps has brought large amounts of bones to the light. These bones mainly belong to domesticated animals; wild animals occur only in small percentages and the same goes for human remains. Cattle (*Bos taurus*) and sheep (*Ovies aries*)[2] were the most numerous domesticated animals in the pre-Roman and Roman Iron Age, but the inhabitants of the terp region also had horses (*Equus caballus*) and some pigs (*Sus domesticus*), perhaps no more than one per household for each of these species. Of course, they had dogs (*Canis familiaris*) as well. This article will focus on the relationship between man and dog, on the basis of the finds of remains of dogs and humans (*Homo sapiens*).

Dog remains

One of the nicest finds from the early stages of terp archaeology is a dog, buried in the terp Hatsum I in the province of Friesland and excavated by Van Giffen in 1922 (find no. 84; Van Giffen, 1924). The dog was very well preserved, even the rather long hair and the toenails, due to the conditions in the dung layer it was buried in (Fig. 2). The dog seems to have been placed with care on its left side, its hairy tail stretched out. We have no information on the feature it was buried in, but comparison with other finds in dung layers in other terps makes it likely that it was not buried in a pit, but was placed on a dung layer and was then covered with more dung. The dung layer probably served as a new house platform afterwards. The dog was lifted *en bloc* en taken to the Biological Archaeological Institute in Groningen (the present GIA). There the finds were sorted about half a century later and stored in paper bags in the institute's attic, which is the domain of the archaeozoological department.

Figure 2 Dog burial (find no. 84) from the terp of Hatsum I near Dronrijp (province of Friesland), dated to the beginning of the 1st century AD. Photo University of Groningen, Groningen Institute of Archaeology (RUG/GIA).

Wietske Prummel was kind enough to examine these remains some time ago, in view of my research on the remains of rituals in terps. The bones belonged to a probably female, adult dog, with a height of 50.2-53.6 cm. The back of the right mandible was damaged, probably because this was the first part that was hit by the shovel during the excavation. The left mandible is missing, as are some hand and foot bones; they probably disappeared during the excavation or during the long period of storage. The cause of death cannot be established. The paper bags contained some other finds from this burial: a

1 The author is presently working on the researchproject / Identität der Wurten/, which is part of theEems-Dollard-Region programme /Land der Entdeckungen./

2 Sheep/goat in the terp region is nearly always sheep. Personal communication Wietske Prummel.

Figure 3 Dog bones found in an inverted pot in a pit in Englum (province of Groningen), dated to the beginning of the 1st century AD. The picture was made after the bottom of the pot was removed. Photo RUG/GIA.

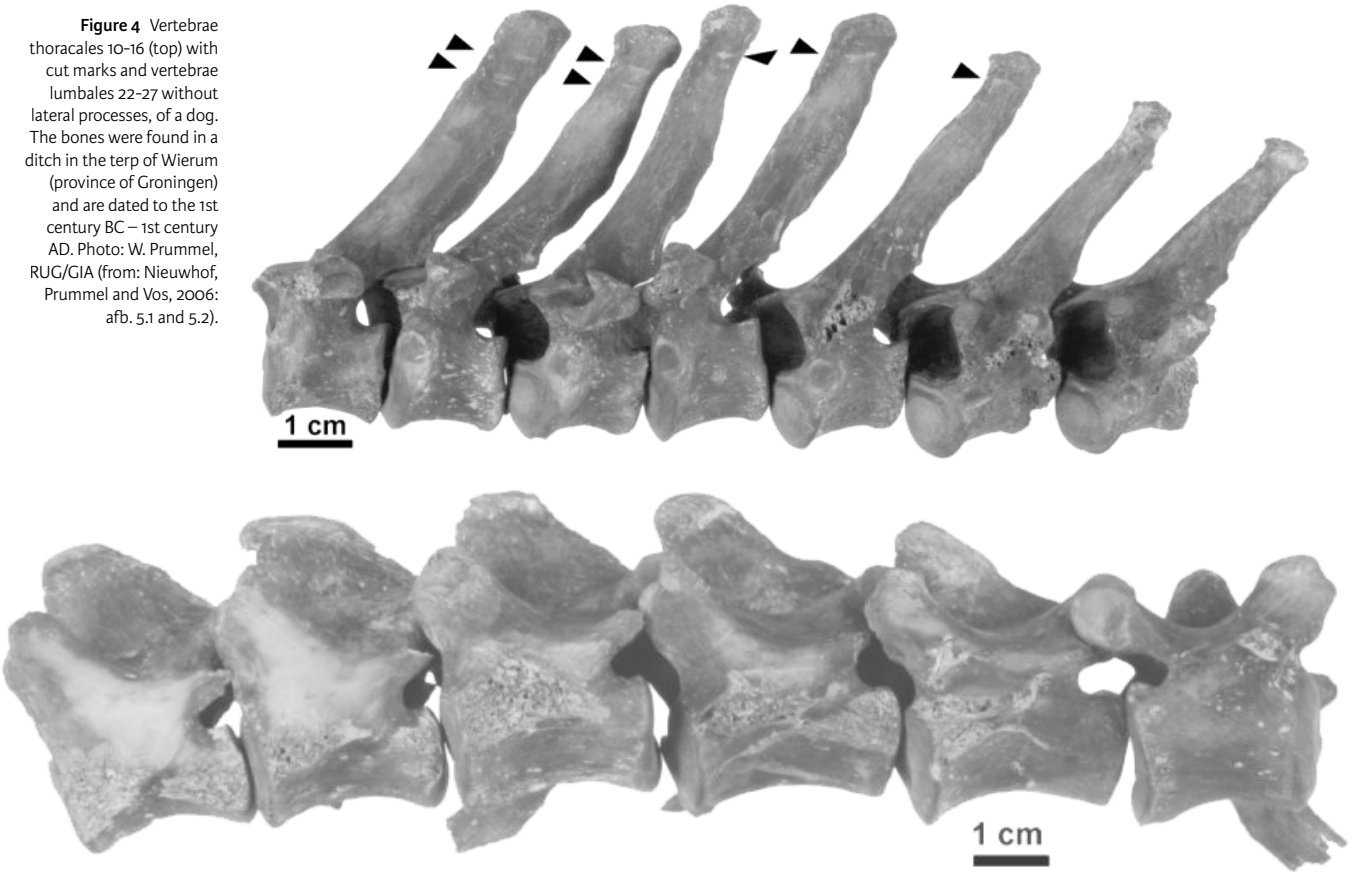


Figure 4 Vertebrae thoracales 10-16 (top) with cut marks and vertebrae lumbales 22-27 without lateral processes, of a dog. The bones were found in a ditch in the terp of Wierum (province of Groningen) and are dated to the 1st century BC – 1st century AD. Photo: W. Prummel, RUG/GIA (from: Nieuwhof, Prummel and Vos, 2006: afb. 5.1 and 5.2).

humerus of a foetal lamb, two small human bones (a metatarsus IV and a phalanx I) and a potsherd. None of the bones had cut or gnaw marks. It is not clear how they were associated with the dog. Wietske Prummel suspected that the foetal lamb bone was part of the dog's last meal, just like a foetal pig that was found inside one of the dogs in the early medieval cemetery of Oosterbeintum (Knol *et al.*, 1996). The small human bones may have been in the dog's abdomen as well. The bones are not visible in the excavation photograph, but it is possible that were covered by the

dog's hair. It is certain that the burial of the dog did not cut through an older human burial; that would have been discovered and documented during excavation of the following level.
Van Giffen (1924: 38) dated the find to the 3rd or 4th century AD, but a radiocarbon date of the dog showed it was older: 2080 ± 35 BP (GrA-42196), that is cal. 200 BC – 0 AD (2 σ). The dog had high stable isotope values (δ^{15}N 11.68; δ^{13}C -20.56); if we allow for a small reservoir effect, the dog burial dates to around the beginning of the 1st century AD.[3] That would well suit the date of the 1st century AD potsherd.

There are many more intriguing finds of dogs in terps. During the excavation of Leeuwarden-Oldehoofsterkerkhof in 2005, a human cranium was found in a pit (find no. 2778). It was discovered while making a section in one of the trenches with an excavator; the finds are probably disturbed, but it is not certain to what extend. The cranium was certainly not buried as part of a complete skeleton. The basis of the skull is broken; mandible and maxilla are missing, probably as a result of mechanical excavating. The tongue bone was found, so that we may assume that the skull was complete. Against the skull, part of the maxilla of a full-grown, medium-sized dog was found. The dog skull may well have been complete as well.
The find thus consists of a human skull and a dog skull, close together in a pit. The human skull belonged to a person of unknown sex, aged over 45.[4] The find was situated some metres from the northwestern wall of a farmhouse (building no. 3; Nicolay, 2008). The stratigraphy and pottery finds suggests a 3rd century date for the pit with skulls or skull remains.
The excavation in the terp of Englum (province of Groningen) in 2000 yielded another extraordinary find assemblage with dog bones, dated to the early 1st century AD (find no. 602). The bones came to the light when the bottom of an inverted, broken pot was lifted (Fig. 3). Complete excavation made clear that the inverted pot contained the bones of the lower extremities and the tail bones, in addition to the skull. Apart from that, there were three playing counters in the inverted pot. Prummel concluded that the dog remains had been part of a complete skin, with head, feet and tail attached (Prummel, 2008). The finds assemblage is interpreted as a deposition associated with a ritual meal, during which a sacrificed dog was eaten (Nieuwhof, 2008a: 224-225). When it comes to sacrifice, the consumption of the major part of the sacrificed animal by a group of people during a ritual meal is very common; as a rule, only parts of sacrificed animals are donated to a supernatural being (Van Baal 1976, 161; for a recent example: Humphrey and Laidlaw 2007). In Englum, it was the skin of the dog that was actually offered. There are no known parallels for this find elsewhere. However, similar remains of horses, though not buried in pots, have been found in Northern Germany and Denmark, and have been interpreted in the same way (Zimmermann, 1970: 75).

The consumption of a dog could be demonstrated in 2004 in another terp excavation in Wierum (Nieuwhof, Prummel and Vos, 2006). There, thirteen successive vertebrae and some other bones of an adult dog[5] were found in a ditch from the late pre-Roman Iron Age (Fig. 4). The lateral processes of the vertebrae lumbales had been cut off and there were cut marks on the dorsal processes and the bodies of the vertebrae thoracales, indicating that the meat of the dog had been eaten (Nieuwhof, Prummel and Vos, 2006: 35). The bones must have been deposited together after the meal, when the ditch was filled-in. Because of the very few finds that indicate dog meat consumption, we assume that dogs were not kept for their meat in the terp region. The consumed dog of Wierum was either eaten in a situation of famine, or as part of a ritual. If we compare this find to the dog skin found in Englum, the latter explanation, that dog meat was eaten as part of a sacrificial meal, seems to fit the data best.
The last example comes from the terp site of Paddepoel, excavated by Van Es in the 1960s (Van Es, 1970). Several dog skulls, some of them with smashed in foreheads, were found there, all in the fillings of ditches (Knol, 1983). One find in particular stands out; it is a dog mandible with a shiny surface, indicating it has been handled often. The find is dated to the late pre-Roman Iron Age. It was interpreted as 'a memento or an

3 Stable isotopes of nitrogen in salt marsh organisms are relatively high, probably due to a different nitrogen cycle in this ecosystem. It is not yet clear whether this has implications for radiocarbon dates (Nieuwhof, 2008b).

4 Animal remains were not part of the published excavation report (Dijkstra and Nicolay, 2008). The information is based on personal communication with Johan A.W. Nicolay and Johan Thilderqvist (both GIA).

5 A sacrum and a tibia possibly belong to the same dog.

amulet' (Knol, 1983: 167). The find has a parallel in a human mandible, which was found in the filling of another ditch. This mandible also has a shiny surface, according to Knol (1983: 174), indicative of frequent handling or wearing. The human mandible is one of several human cranial fragments in Paddepoel that show traces of *post mortem* use and working.

These finds say something about the relationship between dogs and man, not only about the practical reasons why people had dogs, but also about the symbolic meaning of dogs. Special deposits from the same period, in which not dogs but other domesticated animals play a role, have occasionally been found in this area, so we may assume that man had a specific kind of relationship with every one of these species, and that every species had specific symbolic meanings besides their economic value. For instance, the partial skeletons of a horse, a cow and a sheep were found against the wall of one of the first houses of Ezinge. The find, dated to the 5th century BC, was interpreted as a building sacrifice by the excavator, Van Giffen (1963: 246-248).[6] Another example from Englum is a partial horse, dated to the late pre-Roman or early Roman Iron Age, which was found in a creek that was almost silted up at the time of deposition (Nieuwhof, 2008a: 231-233). Nevertheless, dogs occur relatively often in special deposits; moreover, their bones often seem to be treated in the same way as human bones, as some of the above examples demonstrate. To further examine the relationship between dogs and man, we need to compare them with human remains.

Burial rites and excarnation

Human burial rites in the terp region of the Northern Netherlands in the pre-Roman and Roman Iron Age are not very well known. Cemeteries from this period have nowhere been found. However, single inhumation graves have been found in many terps, as well as single human bones. Less than five (single) cremation burials date to this period.[7] Nevertheless, many authors believe that cremation was actually the common funerary ritual of this period, while inhumation was the exception (Van Es, 1966: 49-50; Waterbolk and Boersma, 1976; Hessing, 1993: 25; Taayke, 2005: 163; Knol, 2005: 185). These authors argue that, if cremation remains were buried without container in the salt marsh outside the terps, the chance of finding them is extremely small, especially because the area was flooded and covered with new sediment layers regularly. However, although that might be the case, that does not explain the single graves and single bones.

During the excavation of Englum mentioned above, a house platform made of dung layers from the middle pre-Roman Iron Age was excavated. It contained eight human skulls and large skull fragments that were placed more or less in a circle, together with a pile of cattle legs and the sherds of three pots with perforated bottoms (Nieuwhof, 2008a; Prummel, 2008). The find was interpreted as a foundation deposit involving ancestral bones, which accompanied the building of the new platform (the dog from Hatsum described above can be interpreted in the same way). The human skulls missed mandibles and almost all teeth. Some small, postcranial human bones, which were probably deposited during a related ritual, were found in an adjacent ditch. The finds indicate that the skulls came from people who had died earlier or much earlier (radiocarbon dates were not conclusive as to their relative date), and that they must have been collected after a process of excarnation. This might well apply to other finds of single human bones in the terp region as well. Most of these single bones are cranial, with a small percentage of small postcranial skeletal parts. Can the large percentage of cranial bones and the small percentage of other bones be explained if we assume that excarnation was common practice? Excarnation occurs after inhumation, or aboveground if a corpse is exposed to the elements. In the first case, all bones or a selection of them can be exhumed after some time and stored, for example in an ossuary. This is still practiced nowadays in a modern country like Greece (Danforth and Tsiaras, 1982). Since

6 The find was mistakenly described as a horse, a cow and a dog by Van Giffen (1963) and as a horse, a cow and a pig by De Langen and Waterbolk (1989: 90). The finds book described the animals as horse, cow and sheep, probably correct, right after the find was made. Unfortunately, the bones were not collected.

7 An inventory of human remains from the terp region will be part of the forthcoming PhD-thesis on the remains of rituals in the terp region by this author.

in the terp region single human bones are usually (though not exclusively) cranial bones, excarnation in the ground and selective digging up of skulls would leave many graves without skull. Such graves, however, are virtually non-existent in the terp region. Aboveground excarnation involves exposure of the body somewhere; several circumstances influence the excarnation process, especially the involvement of scavengers. The involvement of scavenging animals in excarnation has been attested for several places in the world, and is still practiced today, for example by Zoroastrian Parsis in India. Nowadays, vultures and crows eat the Parsis' corpses that are exposed on stone towers, but in the past dogs also played a role in the excarnation process (Hertz, 1960: 45).

If scavenging during excarnation is prevented, the soft tissue will disappear due to the activity of microbes and insects. The bare bones will gradually weather, splinter and disintegrate, and finally disappear (Smith, 2006). If bones were collected sometime during this process, not only skulls but all other bones would be available as well, and without damage such as spiral fractures. The single skulls and the small, seemingly random selection of other bones we find in the archaeological record cannot very well be explained by excarnation without scavenging. If we assume that the excarnation process took place aboveground, it is well possible that mainly dogs were involved. Wild animals such as crows (*Corvidae*) and white-tailed eagle (*Haliaeetus albicilla*) could take part as well, but remains of these birds are only seldom found in the archaeological record of the terp region so we have no evidence of the symbolic meaning they might have had for the people who lived here.[8] Wolves (*Canis lupus*), bears (*Ursus arctos*), wild boars (*Sus scrofa*) and fox (*Vulpes vulpes*) are occasional scavengers as well, but there is little evidence for their presence in the terp region. Pig, another domesticated carrion-eater, cannot be excluded on forehand; experiments have shown that pigs efficiently eat complete corpses if they have a chance. However, they do not leave bones, certainly not thin-walled crania (Rausing, 1991; Greenfield, 1988), so they can be excluded in this case.
The idea that dogs were involved in excarnation in prehistory is not new. An example is Addlestrop Barrow, a British Neolithic funerary monument, where 20% of 963 human bones showed traces of animal scavenging, probably from dogs (Smith, 2006). Smith concluded that the bones must have been collected after a process of excarnation in which dogs were intentionally involved and suggests that dogs were "regarded as significant in the transition from 'living' to ancestral status" (Smith, 2006: 682).
In his article, Smith helpfully refers to the work of Haglund and others on the decomposition and disarticulation of corpses aided by canines (Haglund, Reay and Swindler, 1988; 1989, Haglund, 1997). Haglund examined the remains of thirty murder victims, which were found over several years in a wooded area in the Pacific Northwest of the United States. These corpses had been scavenged by dogs and coyotes (*Canis latrans*). Haglund recognises five stages in the decomposition and disarticulation of corpses aided by canines (Haglund, Reay and Swindler, 1989: 589; Haglund, 1997: 368).
During the first stage, the soft tissue will be consumed, either by canines, birds or invertebrates. After this first stage, canines will still be interested in the remaining bones and take them away to chew on them and take the marrow out. They do that in a specific order: first the thorax and the arms, then the legs and then the vertebral column. Finally in the last stage, only the skull remains more or less undamaged in situ, together with some bones and fragments that were accidentally left behind or were chewed on the spot. The skull will normally not show tooth marks (occasionally some on protruding parts), unless it was damaged by falling or by a blow. Other bones can be completely fragmented by chewing, or remain partly intact. Tooth marks do not always need to be present. For instance, a long bone could just snap by the pressure of a dog's jaws (thus creating a spiral fracture), leaving marks on only one of the halves. Bones that remain on the surface will finally completely disappear.

Human remains

To establish whether animals assisted excarnation in the terp region, excavated single human bones need to be searched for tooth and gnaw marks such as furrows, pits, crenulated edges, scores and pitting that are typical of omnivores and carnivores (Binford, 1981). Unfortunately, excavated single human bones

8 A bone of the white-tailed eagle (find no. 825) was found in an early Roman Iron Age context in Englum (Prummel, 2008: 119).

Figure 5 Handle made of a human humerus found in Ezinge (find no. 1104), dated to the 2nd century AD. Parallel scores on the handle were probably made by the teeth of a dog. Photo: A. Nieuwhof, RUG/GIA.

are not always examined very well. They are usually separated from the animal bones and stored until someone takes an interest in them. The human bones of only three excavations have been examined well enough to establish whether they showed tooth and gnaw marks. The first of these come from the excavation of Englum. The human bones from this excavation include fifteen single bones and bone fragments (Tuin, 2008); four of these are postcranial. The bones that were available (not all of them were) were later searched for tooth and gnaw marks by the present author.[9] The results are inconclusive. Clear marks were not found, but the distal half of a left radius (find no. 946), dated to the middle pre-Roman Iron Age, was broken with a spiral fracture; this bone also shows some small scores that follow the contour of the bone, while the damaged distal end possibly shows some crenulation. A lumbar vertebra from the early Roman Iron Age (find no. 486), of which the processes have disappeared, has furrows on the body of the vertebra, possibly made by dog teeth.

The terp of Wommels-Stapert (province of Friesland) was excavated in 1994 (Bos *et al.*, 2000). Animal bones, including six single human bones, were studied by Woltinge (Woltinge, 2003, Woltinge and Prummel, 2005).[10] Gnawing marks and spiral fractures were found on two of the single human bones. One of them is the shaft of a left tibia (find no. 184), found in a pit from the 4th or 3rd century BC. The other is the shaft of right humerus (find no. 1), dated to the 6th or 5th century BC.

The most recent data come from the study of the bones from the terp of Ezinge, which was excavated by Van Giffen between 1923 and 1934 (Van Giffen, 1926; 1928; 1936). In 2011, the Netherlands Organisation for Scientific Research (NWO) funded a research project, aimed at the unpublished find material from the excavation in Ezinge.[11] Within this project, animal remains were examined by Wietske Prummel and some of her students. Among the animal bones were some human bones, which could be added to an inventory of human remains that was made by this author. One of these was a bone handle made of a human humerus, dated to the 2nd century AD (find no. 1104; fig. 5). The shiny surface of this object indicates frequent handling. A number of parallel scores on the bone were identified as gnawing marks, probably made by a dog. The scores had been made before the bone was worked and made into a handle. Gnawing marks were also found on a human mandible (find no. 1164).[12] Although the number of single human bones with traces of gnawing by dogs is rather small, they can be taken as supportive evidence that dogs were involved in excarnation. The finds of single human bones fit rather well in the last stage recognized by Haglund (1997; see above). If excarnation by dogs was indeed practiced, the collection of the bones must have taken place during this last stage, when only crania and some accidental bones were still lying in situ, at a later stage than the Neolithic practice described by Smith (2006; see above). The presence of small human bones (*e.g.* in Englum) indicates that the remaining bones were collected with care. If dogs were intentionally used in excarnation, they may have been encouraged to eat the bodies, so that the process did not take a long time. It may have been considerably shorter than Haglund's minimum of five months. The rather good condition of the Englum crania may be taken to show that it was indeed short, for exposure to light, water, wind and salt would have accelerated weathering. The collected bones were stored, to be used in rituals later.

9 The author's conclusions were verified by Wietske Prummel and Johan Thilderqvist (GIA).

10 Inger Woltinge was kind enough to put her database at this author's disposal.

11 The Odyssee-project *De grondsporen van Ezinge; datering en interpretatie* (A. Nieuwhof). Publication of the results is in preparation.

12 The marks were identified by Wietske Prummel.

Ezinge

The finds from Ezinge are interesting, as they provide a better understanding of the use of human bones in rituals and also of the symbolic meaning of dogs. If dogs were involved in excarnation (which is taken as a working hypothesis here), their symbolic meaning must be connected to that role.

In Ezinge, eleven single inhumation graves, twelve single human bones and one possible cremation were dated to the pre-Roman and Roman Iron Age (Nieuwhof, forthcoming and in press). These finds were spread over the settlement. Among the single bones (most of them cranial bones) were four bones that were worked in some way. Besides the handle mentioned above, there were two bowls made of the upper part of crania and a small, shiny and perforated cranial fragment that had possibly been used as an amulet.
The small number of inhumations cannot represent the entire population of Ezinge over the ages. There must have been a reason why they were chosen to be interred, rather than cremated or excarnated. Two of the complete burials were buried within houses, either in the floor or in the platform beneath. The others were all found in the vicinity of houses. The people who were buried may have been human sacrifices, as has been suggested (*e.g.* Gerrets, 2010: 114). However, there are no indications that they did not die of natural causes; these dead may well have been selected to be buried for a specific reason; they might, for instance, have been the first dead in a household after a new house was taken into use. Burying them under, in or near the house tied the family to their house and land; the family's territory was thereby made into ancestral land.

The single human bones (worked and unworked) were also found in or close to houses. Bones that were collected after excarnation were ancestral bones, which probably served as inalienable objects (Weiner, 1985; 1992). Such objects belong to a family's most valuable possessions as they serve to establish and maintain a family's identity. Burying them in or near the house can be interpreted in the same way as the single burials; it connected the living to their land and house via the dead.
Besides human bones, animal bones were collected in Ezinge. Unfortunately, only a small selection was collected so the information is incomplete. According to the finds book, eleven dog skulls were found, most of them in ditches. Two skulls from the first habitation phase in the 5th century BC had been deposited in the filling of two arms of the same creek (find nos. 1146 and 1147). One dog skull was reported to be found together with a fox skull in a house from the 1st century AD (find no. 1177). A complete dog (find no. 1569) was buried in a house from the middle pre-Roman Iron Age, "the toes somewhat deeper than the head" as was noted in the finds book.

Deposits of animal skulls in Ezinge are not limited to dogs; fifteen skulls of cattle and one of sheep from several contexts have also been recorded. Complete animal burials are very rare; only an unnumbered sheep skeleton was found in a large rectangular pit filled with dung from the middle Roman Iron Age, and a horse, dated to the end of the Roman Period (find no. 1176a) was buried north of a contemporary house. The building sacrifice mentioned above, consists (judging from an excavation picture) of only partial skeletons of a horse, a cow and a sheep. Only a dog was buried complete inside a house in Ezinge.

Conclusion: the relationship between dogs and humans

The evidence presented above may be taken as an indication that excarnation with the aid of dogs was practiced as one of the burial rites in the terp region of the Northern-Netherlands in the pre-Roman and Roman Iron Age. There are human bones with gnawing marks and spiral fractures; one of the bones was made into a handle afterwards. The dog of Hatsum possibly had two small human bones in its stomach. Moreover, the single bones that are regularly found in terps are mostly crania or cranial fragments; postcranial bones or their fragments are less frequently found, and often have spiral factures. This specific selection fits the last stage of the process of decomposition and disarticulation described by Haglund (Haglund, Reay and Swindler, 1989; Haglund, 1997) very well.

The Ezinge finds confirm the conclusion that was made on the basis of the finds that were described in the first part of this article: dog deposits are not entirely the same as deposits in which other animal species are involved. Moreover: there are similarities with deposits of human bones. People as well as dogs were found buried inside houses or in the podia underneath (Hatsum, Ezinge, the skulls of Englum);

mandibles of humans and of dogs were probably used as amulets (Paddepoel); a human skull and a dog skull were probably buried together in a pit (Leeuwarden-Oldehoofsterkerkhof). Of course there are differences as well. In Englum and in Wierum, dogs were sacrificed and eaten occasionally. Although it is not impossible that human sacrifice was practiced in the area at the time[13], there are no indications that sacrificed humans were also consumed.
If dogs were involved in excarnation, as the evidence might be interpreted, the symbolic meaning dogs had would be coloured by this practice. They would not just be associated with hunting, herding, guarding, playing or even cuddling, but also with the dead. Speculating on this added symbolic meaning, we can imagine two opposites:

1. Dogs are seen as contaminated, associated with death, to be avoided, and living on the margins of human society.
2. Dogs are seen as intermediaries between the living and the dead. The dead are still somehow alive in them. This gives them a special status, comparable to members of the family.

If we look at the evidence, the latter possibility seems the more likely for our research area. Dog remains resemble human remains in several ways, especially if associated with houses. Just like dead people, dead dogs seem to be related to the realm of the ancestors. They are somehow involved in the relations between the living and the dead and in the history and identity of the family. Burying a dog in the house connects a family to it in almost the same way as a dead relative would. However, that does not mean that dogs and humans are on equal footing. Dogs can have their skulls smashed in, and they can be sacrificed and eaten. The consumption of dogs closes the circle and brings the dead back to the living.

This conclusion is still based on only little evidence. To further substantiate it, single human bones will have to be examined with more attention and precision than was customary until very recently. Many modern excavations still do not make use of the expertise of a physical anthropologist, especially if only small fragments of human bones have been found. Such fragments have the best chance of proper examination if they are not separated from the animal bones, but are included in the material studied by the archaeozoologist.

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13 The bog bodies found in Drenthe testify that human sacrifice was practiced there in the same period (Van der Sanden, 1996).

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